Name: Rachel Fischhoff Grade: Date:

Area Stays the Same

|  |
| --- |
| Lesson Sources: Schuster, pg. 325 |
| Lesson Objectives: Students will explore the relationship between area and perimeter by creating and examining various shapes with a constant area and variable perimeter measures. |
| Standards: 5G 4. Classify two-dimensional figures in a hierarchy based on properties. |
| Multicultural Content: |
| Materials and Advanced Preparation: 5x5cm squares, scissors, tape, strings, paper spot in the room to hang them up, anchor chart showing area and perimeter |
| Prior Knowledge and Skills Needed: Understanding/review of area/perimeter |
| Key/New Vocabulary:  area: the measure of the inside region of a figure  perimeter: the measure around a figure |

Lesson Procedure: Part One

|  |  |  |  |
| --- | --- | --- | --- |
| **Time** | **Teacher Actions** | **Student Learning Activities** | **Form of Assessment** |
| 1 min | **1. Connection**   * Review: what do we know about area/perimeter—these terms * Review: how do we find the area of a rectangle? a = b x h, thinking about arrays, etc. | Situating today’s lesson in past learnings | Active listening |
| 10 min max | **2. The Teaching (The Giving of Information):**   * Mathematicians, today we will explore the relationship between area and perimeter by finding the perimeters of figures *you create*. * Each partnership will have one 5x5 card. * This square is 5cm x 5cm. What is it’s area? How do we know? What is it’s perimeter? How do we know? * What if (cutting figure) the same card is cut and re-taped to form this shape…what is the area of this shape? | * Active listening * Limited participation | * Active listening |
|  | **3. Have-A-Go (optional)**   * T&T: what is the perimeter of this new shape? How could we find it? | How will students be actively involved?  By:   * Partner Talk | * How will you assess students’ understanding of the teaching? * How will you give feedback? |
|  | | | |
|  | **4. The Link**   * Share string as available material * How could be we use this material to learn more about this figure’s perimeter? * Model how to cut and measure * Today, you will work with a partner to *transform* one 5x5 square into a new shape with the same area. You will then use string to measure the perimeter. * When you are done, tape your figure and string to a sheet of paper so that we can see how long each string is! | **(Workshop Time)**   * Cutting cards, measuring with string, creating final page, posting |  |
|  | **5. Closing (at the share)**   * What do we notice? Can we generalize? * Make sure to lead students toward realization that “skinny” shapes have longer perimeters, “fatter” shapes have shorter perimeters… | * Noticing * Whole class discussion | * Checking products for accuracy * Guiding the conversation toward vital realizations |
|  | | | |

**Reflections:**

How did the lesson plan work? What was effective? What did you learn? What would you change for tomorrow or the next time you will use this plan?